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daker's term of existence as a shopkeeper in our street was likely to prove longer than they had at first anticipated; but they still persisted in the belief that his ruin was only put off for a season, and that the longer the event was postponed, the more fatal would be the catastrophe. In the mean time, as their drapery and drug business was not affected, it was sufficient to support them till the former state of things should be restored. But, alas! when changes have begun, who can say where matters will end? In a few months Browne opened a draper's shop in our street, on a similar scale to that of Widdaker; and Robinson started regular as a druggist. Onslow and Son, however, still continued to believe that theirs would again become the only shop in the neighbourhood, and that these upstarts would soon vanish.

In process of time the young tradesmen married, and were surrounded by families, and still, to the astonishment of the Onslows, continued to manifest all the outer signs of men in easy circumstances. Widdaker was chosen to serve the office of mayor; Browne was elected churchwarden; and Robinson's ruin seemed to be as distant as ever.

At length, as the early-closing system was adopted in our street by all except the firm of Onslow and Son, a meeting of the inhabitants was called, to consider the propriety of establishing a literary institution, to which all parties, principals, assistants, and apprentices, might repair after business hours, for rational amusement and instruction. The object was approved of, and it was resolved that a site should immediately be sought out, on which to erect a hall for the purpose.

On the evening of that day, Onslow and Son settled their last transaction as members of a commercial firm.

"Sam," said Onslow to Son, "the world is gone mad. The sooner we are out of business the better. In a quiet cottage in the country we may, at least, live in peace."

A few weeks later, Onslow and Son deserted the home of their fathers, on which the "Athenæum" is now erected. But although seven years have passed away since that event, it is still the unalterable opinion of George Onslow, Esq., of Broom Cottage, that we are on the eve of a revolution, a national bankruptcy, or a foreign invasion, and that these calamities are mainly owing to such changes as have been wrought by the hand of Time in the condition of our street.

ORNAMENTATION OF METALS.

A PAPER was read a short time ago before the London Society of Arts, on the above interesting subject, by Mr. W. C. Aitken, of Birmingham. After an elaborate examination of the æsthetic principles of the Greeks, Mr. Aitken glanced at the European works of the middle ages, and rapidly contrasted the advantages afforded by machinery with the laborious and sometimes cumbrous processes of the hand-labour then unavoidably employed. He next traced the history of the various processes employed by metal-workers, such as casting, stamping, beating, *repoussé*, engraving, chasing, and electro-deposition; and, after explaining the cognate arts of die-sinking and machine-cutting, proceeded to notice in detail a new method of ornamentation now being very successfully worked. He observed—"Permit me now to direct your attention to a process which has recently been introduced, with what success the specimens displayed before you will enable you to judge. The merit and chief recommendation of the invention is its very great simplicity,—the ease, speed, and facility with which the effect of a reticulated surface, an elaborated, chased, or an elegant scroll or floriated design, apparently engraved, may be introduced on any object. The fact of a soft material imprinting upon a harder one an impress of its form has long been understood; its practical application to the production of ornamental designs upon metal is, however, of but recent origin. The practical application of the process is due to Mr. R. F. Sturges, of Birmingham, who, in connexion with Mr. R. W. Winfield, of the same town, is

proprietor of the patent. The origin of the invention may be traced to the competitive spirit of trade which operates with so much effect upon the manufacturing industry of our country, calling into action the inventive faculty to devise new and more economic methods of effecting certain results. The idea once originated, it is singular to trace its gradual development. In its early stage it was imagined that the harder the material out of which the pattern or design was made, the better for the purpose. Keeping this then imagined requisite in view, the first ornament imprinted was made out of steel wire formed into shape, and thereafter tempered; designs of a more complicated and minute character it was expected could be produced by using metallic lace or wire web."—This did not succeed, and thread lace was then employed, and successfully; a perfect impression being obtained, under a pressure of ten tons, on copper, brass, German silver, iron, and, more wonderful still, even on steel. The patentees then used perforated paper, which produced an equal or even better effect.—"But by far the most useful practical application of the inventor was yet in store; and, in economy of its reproductive powers, it bears a near relation to the multiplication of the duplicate steel plates from which the Bank of England notes are printed, and which are produced by pressure, in the first instance, from one original engraved plate; or to the production of the plates from which our ordinary penny postage-stamps are printed, the original of which, up to 1842, had been only once engraved. The reproduction in the two instances last mentioned is effected by means of steel rollers, the periphery of which, by pressure on the original plate, has received an impression of the engraving in relief, and which when hardened impresses upon the surface of a soft steel plate a fac-simile of the original. The plan adopted in the present instance, and applied to the ornamentation of metal, is somewhat similar. A steel plate very equal in thickness is selected, on which the design requisite for the ornamentation of the salver, tray, or other object, is engraved in the ordinary manner, but somewhat deeper, the point of the graver employed to cut the lines being ground more *acuté*. The engraving must be carefully executed; erasures or scrapings out, or beatings up of the plate from behind, must be avoided, as where they occur they are detrimental to the appearance and uniformity of the work. The least departure from perfect flatness of surface or equality of thickness is fatal to the perfection of the impression. From this plate a matrix or impression is taken in German silver, steel, or other metal, by passing the plate to be used as the matrix, and the engraved plate or design to be copied from, through a pair of rolls, observing, however, that the pressure of the rolls is uniform all over the surface, or, in technical language, that the 'pinch' is equal. If this has been the case, and if the pressure applied has been sufficient, the result will be, that upon the previously blank sheet of metal an impression, with elevated or projecting portions corresponding to the sunk lines in the engraved or chased original plate, will follow. This impression is then used as the medium from which to obtain the ornamental blank thereafter to be made up. This is done, as in the former instance, by placing the sheet of metal to be ornamented with its face to the plate with the raised or projecting portions, and passing them through the rolls as before; the consequence is, that every line of the original design will be found impressed or indented into the previously plain sheet or blank of metal. The original steel plate is thus used only for the preparation of reverses, one of which, however, may be used many times in succession, or in proportion to the hardness of the metal to be ornamented. The blanks, after being ornamented, may be stamped, or spun up into shape; if of a globular or regular form of outline, if irregular, hexagon, octagon, or with bosses, the metal out of which the vessel or article is formed is ornamented in separate portions, which are thereafter bent, stamped, or raised into shape, fitted and soldered together. After trimming and dressing, the plating or silvering is effected by the electro-deposit process; burnishing follows, the tools employed being burnishers made of blood-stone."